



March 19, 2014

Mr. Dwight Leisle
Port of Portland
7200 NE Airport Way
Portland, Oregon 97218

Re: Proposed Surface Soil Sampling – DU-6
Willamette Cove Upland Facility
Portland, Oregon
ECSI No. 271
1056-03

Dear Mr. Leisle:

This letter presents the proposed surface soil sampling activities to better define high concentration hot spots in Decision Unit 6 (DU-6) for the Willamette Cove Upland Facility (the Facility; Figures 1 and 2) in the St. Johns area of Portland, Oregon. Work at the Facility is being conducted under Voluntary Agreement EC-NWR-00-26 between the Port of Portland (Port), Metro, and the Oregon Department of Environmental Quality (DEQ). The proposed activities presented in this letter include collection of surface soil samples for chemical analysis.

BACKGROUND

Surface soil samples (designated DU-4 through DU-7) collected at the Facility using the incremental sampling method were analyzed for dioxins/furans, metals, and polycyclic aromatic hydrocarbons. The results were presented in a letter report to the Port (*Incremental Surface Soil Sampling Results*, March 4, 2014). With a few exceptions, the incremental sampling results were consistent with the risk model and hot spot evaluation used for the feasibility study. Key exceptions were the extent of hot spot levels of mercury and dioxins/furans in DU-6. This work plan describes additional sampling to better define mercury and dioxins/furans hot spots in DU-6.

PROPOSED SAMPLING ACTIVITIES

Preparatory Activities

The following activities and schedule coordination will be completed in preparation for the field work.

- **Health and Safety Plan (HASP).** Apex Companies, LLC (Apex) will update the HASP for its personnel involved with the project.
- **Coordination of Facility Access.** The work activities will be conducted in coordination with Metro.

Surface Soil Sampling

Surface soil samples will be collected from DU-6 at the same locations as the incremental sample locations that constituted sample DU-6. Figure 3 shows the sample locations. GPS coordinates for the sample locations are presented in Table 1. Soil samples will be collected using the following protocols.

- The sample locations will be established using a high-accuracy, handheld global positioning system (GPS) device (Trimble® GeoXH™). Hand taping methods will be employed to augment the use of the GPS in areas of reduced satellite coverage.
- The samples will be collected from the top 6 inches of surface soil after removing vegetation.
- The samples will be collected with a 0.5-inch-diameter cylindrical stainless steel sampler. Multiple aliquots will be collected at each location (within a 5-foot diameter) in order to collect sufficient volume for analysis.
- Non-disposable items (e.g., sampler, spoons, bowls, etc.) will be cleaned by washing in a detergent (Alconox®) solution, rinsing with tap water, followed with a deionized water rinse prior to initiating sampling and between sampling locations.
- Given the nature of the contaminants of concern under evaluation, field screening will not be conducted.
- At each location, approximately 450 grams of soil will be collected into a stainless steel bowl and thoroughly homogenized. Replicate (two) 200-gram samples (two 4-ounce jars) will be collected. These samples will be labeled DU-6-## where ## corresponds to the sample location number from Figure 3. In addition, 40 grams will be collected for composite sampling as described below.
- Composite samples will collected as follows:
 - DU-6-COMP-1: sample locations 1 through 13
 - DU-6-COMP-2: sample locations 14 through 26
 - DU-6-COMP-3: sample locations 27 through 38
 - DU-6-COMP-4: sample locations 39 through 50

The 40-gram aliquot from each of the twelve or thirteen locations will be placed in a stainless steel bowl and thoroughly homogenized. Replicate (two) 200-gram samples (two 4-ounce jars) will be collected and labeled with the composite sample numbers above.

CHEMICAL ANALYSES

Replicate soil samples (DU-6-1 through DU-6-50 and DU-6-COMP-1 through DU-6-COMP-4) will be submitted to the following laboratories for the following analyses:

- Vista Analytical (Vista) of El Dorado Hills, California for dioxins/furans by EPA Method 8290; and
- Apex Labs of Tigard, Oregon for mercury by EPA 7471.

The laboratories will initially analyze samples DU-6-COMP-1 through DU-6-COMP-4. Based on those results, the laboratories will be directed to analyze additional samples. The additional analyses may be on individual samples or on composites to be created by the laboratory. Multiple follow-up rounds of analyses may be completed as needed to define the extent of hot spots.

The requested method reporting limits (MRLs) will be consistent with the historical laboratory analyses and the concentrations will be presented to the method detection limit (MDL).

REPORTING

The results of the sampling proposed in this letter will be presented in a data report and used to refine evaluation of remedial options.

If you have any questions regarding these activities, please contact the undersigned at (503) 924-4704.

Sincerely,



expires 12/31/2014

Michael J. Pickering, R.G.
Senior Associate Hydrogeologist

Herbert F. Clough, P.E.
Principal

ATTACHMENTS

Table 1 – Sample Coordinates, DU-6

Figure 1 – Facility Location Map

Figure 2 – Facility Plan

Figure 3 – Proposed Sampling Plan

Table 1 - Sample Coordinates, DU-6
Willamette Cove Upland Facility
Portland, Oregon

Sample	Northing (Y)	Easting (X)
1	706413.0	7625522.0
2	706385.7	7625481.4
3	706344.8	7625534.1
4	706325.1	7625454.5
5	706310.7	7625446.6
6	706252.4	7625491.7
7	706234.9	7625407.5
8	706338.4	7625586.4
9	706300.9	7625584.5
10	706270.5	7625569.7
11	706230.0	7625620.1
12	706225.1	7625550.7
13	706178.1	7625529.5
14	706236.1	7625766.0
15	706217.5	7625684.1
16	706159.9	7625728.1
17	706145.5	7625720.1
18	706166.6	7625873.2
19	706180.2	7625804.6
20	706105.6	7625843.6
21	706123.3	7625785.7
22	706089.7	7625758.7
23	706157.1	7625935.0
24	706125.7	7625921.4
25	706081.0	7625901.7
26	706059.2	7625932.4
27	706086.3	7626133.7
28	706101.4	7626055.6
29	706043.5	7626099.9
30	706040.8	7626025.2
31	706078.9	7626269.8
32	706035.7	7626232.7
33	706047.8	7626171.6
34	706002.7	7626167.1
35	706058.0	7626387.8
36	706040.6	7626305.2
37	705997.4	7626359.4
38	705994.4	7626285.1
39	706065.9	7626527.1
40	706020.9	7626506.7
41	705990.2	7626491.9
42	705960.3	7626477.1
43	705971.7	7626413.5
44	706071.7	7626666.3
45	706044.8	7626655.3
46	706039.9	7626586.7
47	705966.4	7626623.1
48	705978.1	7626559.0
49	705905.0	7626595.4
50	705916.0	7626531.3



Note: Base map prepared from USGS 7.5-minute quadrangles of Linnton and Portland, OR, dated 2011 as provided by USGS.gov.

0 2,000 4,000
Approximate Scale in Feet



Facility Location Map

Proposed DU-6 Surface Soil Sampling
Willamette Cove Upland Facility
Portland, Oregon



Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	1056-03
March 2014	

Figure
1



Legend:

- DU-6** Incremental Sample Decision Units
-  Historical Wharf Road Incremental Samples
-  Site Boundary

Source: Base map prepared from a 2005 aerial photograph.

0 250 500
Scale in Feet

Facility Plan

Proposed DU-6 Surface Soil Sampling
Willamette Cove Upland Facility
Portland, Oregon



Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

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Figure
2



Legend:

- 1 • Proposed Sample Location and Number
(Note: Sample locations correspond to DU-6 incremental sample aliquot locations)
- Historical Wharf Road Incremental Samples
- Site Boundary
- DU-6-COMP-1 Proposed Composite Sample and Number
- Previous Incremental Sample Grid

0 250 500
Scale in Feet

Proposed Sampling Plan
Proposed DU-6 Surface Soil Sampling
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1056-03	Figure 3
	March 2014		

Source: Base map prepared from a 2005 aerial photograph.